Region 1 FY 2014 Invasive Species Control Program Proposal

Refuge/complex name: Ridgefield NWR

Project title: Shiny Geranium Comprehensive Survey and Control

Total amount requested: $10,400

Project description: This project will concentrate comprehensive search and control efforts on shiny geranium (*Geranium lucidum*) - a high-impact species recently discovered on the Refuge. Shiny geranium is a Class A noxious weed in Washington, and its effects in oak woodlands, ash forests and on forest edges are well recognized and pronounced, threatening native plants including the State sensitive small-flowered trillium. Approximately 3 acres of oak woodland edge habitat (found in 2012) and 2 acres of young cottonwood forest edge habitat (found in 2013) are known to be infected on the Refuge, however the full extent of the infestation is still unknown. All potential habitats will be searched refuge-wide - estimated at approximately 20-40 acres. The plant will be searched and treated on 3 acres of oak woodland and 2 acres of sandy soil deciduous riparian and other locations as discovered using EDRR.

Distinct project with well-defined objectives (10 points): Ridgefield NWR has an on-going annual invasive plant control program. However, the discovery of shiny geranium in 2012 in oak woodland and a second unexpected discovery in 2013 beneath early seral stage dry site riparian forest (including 100 acres of DNR land adjoining the Refuge) now indicate a significantly wider habitat range, raising new questions regarding the plant's full extent on the Refuge. The plant was first treated in 2013 at both known Refuge locations. A comprehensive effort during the optimal season (Oct – March in FY 15) is needed to complete a thorough survey in all possible habitats across the Refuge and refine and implement control. The plant is most efficiently located and treated with minimal collateral damage to desirable native species when deciduous trees, shrubs, and native herbs are leafless. The geranium's red color makes it relatively easily located at the right time of year. Dormant season work also significantly reduces the risk of poison oak - a frequent safety hazard on oak woodland habitats. Initial treatments and winter/spring access logistics (boat and amphibious vehicle use) tested in 2013 will be evaluated and the results used to inform future treatments. The project would treat all populations found and complete the setup needed for 4 years of follow up. A pending low water year on the Columbia may also present an uncommon opportunity to search and treat near the mean high water mark, where a water vector in the spread of this species along the river is suggested.

Potential for maximum control/Likelihood of success (10 points): This project will characterize the invasion and provide an initial pulse of control effort, refining and focusing best treatments. Based on recent early detection efforts and the biology of similar annual species, eradication (seed bank collapse) is hypothesized within the short-term (4 years) although as with any species some residual seed bank potential will remain requiring annual monitoring and follow-up spot control. This has been the success story with other plants establishing readily from seed such as slenderflower thistle and purple loosestrife on the Refuge. In addition to selective herbicide treatment on dry days, propane flamer treatment will be used to allow work in wet conditions and minimize damage to desirable perennials.

Biological benefit to priority species or BIDEH (10 points):
The Ridgefield NWR was established to benefit migratory waterfowl and other trust resources (inter-jurisdictional fish, listed species, and migratory birds). The proposed activities are spelled out in the Refuge's CCP. Removal of wetland and riparian invasive plants will prevent the suppression of native vegetation which provides high-quality forage for wildlife species, including the Federally-listed Columbian white-tailed deer. Shiny geranium poses a direct threat to priority oak woodland and prairie remnant (grass bald) habitats on the Carty Unit, including areas lying within the special designation Blackwater Island Research Natural Area, which includes the highest quality Columbia white-tailed deer habitat on the Refuge and the state sensitive small-flowered trillium. The discovery in summer 2013 of shiny geranium under young cottonwood forest on sand substrate has significantly widened the search signature for this plant and added riparian forest to the habitats it threatens.

Sustainability (10 points): The Ridgefield Refuge has expanded invasive plant control over the last 8 years, and will continue this commitment to maintain control gains and EDRR using all funding sources available. The long-term accumulation of invasive species such as yellow flag iris and fragrant water lily has been significantly reduced with funding support in the past 5 years, allowing resources to be focused now more on EDRR and newly discovered threats such as shiny geranium.

Comment [BF1]: Fair enough. I like their take on responding to the questions. They tell it like it is, but also manage to adequately answer the question.

Monitoring to document and evaluate project success (10 points): Permanent photomonitoring points will be established or repeated and GPS mapping and data entry into the Refuge GIS will monitor control of locations Refuge-wide. Annual ED/ER efforts will continue in the treated areas and adjacent habitats to ensure that any individual plants that are located are removed before the species becomes established. Six, 1m square photo plots established in oak woodland in 2013 will be repeated and 2 new sets of photo plots will be added on rock substrate along the high water mark and in cottonwood forest habitat.

Budget: The Complex's invasive plant management program relies heavily on volunteers, Friends groups, and grant funds. The funding requested is critical to complete survey and treatment during the optimal winter control period and maintain the biological integrity of the Refuge's oak woodlands and riparian forests. All funds will be obligated in FY14. Approximately 42% ($4,400) will be spent in FY14 but 58% ($6,000) will be needed in FY15. Mapping, planning, logistics and preparation work will begin in September 2014, but most search and treatment work will take place during the FY 15 dormant season (Oct-early Mar) for optimal efficacy. Although a new species to many, the efficacy of dormant season work on shiny geranium is also reinforced by recent experience from area practitioners.

Salaries and Benefits: Habitat Coordinator, Friends of RNWR Sept FY 14	$2,900
Salaries and Benefits: Habitat Coordinator, Friends of RNWR Oct-Mar FY 15	$5,000
Share of AmeriCorps Position cost (field support/applicator) Oct-Mar FY 15	$1,000
Supplies FY 14 (weed flamer/tanks, herbicide, PPE incl. poison oak, boat supplies)	$1,500
Total Amount Requested:	**$10,400**
Other Contributions: Volunteer Applicators in-kind labor estimated 80 hours The Refuge will provide other equipment and logistic support.	$1,600

Comment [BF2]: Deputy PL withdrew this portion of the request (has it covered via Youth Hires).